

# **CITY OF ST. CHARLES ELECTRIC SERVICES**

## **ON LINE LOAD TAP CHANGER INSPECTION AND MAINTENANCE TECHNICAL SPECIFICATION**

### **1.0 SUMMARY**

It is the purpose of this specification to obtain trained certified technicians to perform a visual inspection, cleaning and necessary parts replacement for On Line Load Tap Changers. Once inspection and maintenance are completed, the Contractor is to provide a written inspection report and health evaluation with digital photographs (jpeg format).

- 1.01 Attachment-A delineates the manufacturer, type, serial number, instruction book and location of each On Line Load Tap Changer.
- 1.02 The Contractor shall provide skilled personnel with the technical qualifications to perform service and repair all the On Line Load Tap Changers delineated in Attachment-A. All of the Substations are located in the City of St. Charles. All work conducted shall be performed by certified service technicians which are aware of their responsibility and know that their diligent work often decides the fate of high-value material assets.
- 1.03 The Contractor shall provide at least three (3) references, within the past three (3) years, of clients for whom services have been performed. The references shall include names, addresses, and telephone numbers of the clients for whom prior service was performed and include an explanation of the services provided.

### **2.0 SCOPE OF WORK**

- 2.01 The Contractor shall mobilize all its own personnel and equipment to the substation site.
  - 2.01.01 Provide all labor, tools, equipment to complete inspection and maintenance.
  - 2.01.02 Supply all oil, oil handling and storage.
  - 2.01.03 Deliver and install all scaffolding to work safely on the LTC compartment.
- 2.02 Inspect and service the High Voltage Supply ARDB2-0000 Auto Recharging Dehydrating Breather.
- 2.03 Perform a visual inspection for leaks and damage.
- 2.04 Inspect the liquid level gage for operation and proper level.
- 2.05 Observe the operations counter and note number of operations.
- 2.06 Operate LTC to examine for proper electrical and mechanical operation.
- 2.07 Observe the operation of the position indicator.
- 2.08 Inspect the control cabinet and motor operator. Replace any parts that are found to be worn or damaged.
  - 2.08.01 Inspect for cleanliness and moisture.
  - 2.08.02 Examine the wiring for damaged insulation, overheating, and loose connections.
  - 2.08.03 Inspect the operation of panel heaters.
- 2.09 Drain and properly dispose of oil from LTC tank; approximately 111 gallons.
- 2.10 Open doors to LTC Compartment.
- 2.11 Rinse and clean the switch compartment with clean oil and cloth.

- 2.12 Examine wear and alignment of all fixed contacts (main, reversing, transfer/diverter, slip, and wedge.)
- 2.13 Operate LTC and verify proper mechanical timing and alignment on all taps. Check spring drive compartment.
- 2.14 Inspect and check operation of motor drive.
- 2.15 Check operation of breather.
- 2.16 Inspect and measure resistance of transition resistors, if equipped.
- 2.17 Inspect the barrier boards, the seal, and the connections between main transformer tank and the LTC compartment.
- 2.18 Replace any parts that are found to be worn or damaged.
- 2.19 Examine the condition of the door gasket, replace if necessary.
- 2.20 Close and bolt LTC compartment door.
- 2.21 Refill with oil through a pump/filter.
- 2.22 Inspect for oil leaks and proper oil level.
- 2.23 Provide a written inspection report and health evaluation with digital photographs (jpeg format).

### **3.0 SPECIAL REQUIREMENTS**

- 3.01 The City of St Charles requires contractors to meet all State of Illinois requirements, such as human rights, prevailing wage rates, insurance, etc. (See Information to Bidders at <http://www.stcharlesil.gov/>)
- 3.02 All work under this agreement shall comply with the Prevailing Wage Rate Act of the State of Illinois, Illinois Compiled Statutes, 1987, Chapter 820, par. 130/31, et. seq, and as amended by Public Acts 86-799 and 86-693 and our current city ordinance, with rates to be paid in effect at time work is performed.
- 3.03 Contractors shall submit certified payroll records to the city prior to being paid.
- 3.04 Contractor shall secure and maintain in effect at all times insurance of the following kinds and limits to cover all locations of the Contractor's operations in connection with work naming the City of St. Charles as an additional insured.
- 3.05 Contractor shall furnish Certificates of Insurance to the City before starting work.
- 3.06 The Contractor's equipment and personnel shall only occupy areas identified as safe by the City of St. Charles.
- 3.07 The Contractor will not be allowed to use any Subcontractors without prior approval from the City of St. Charles.
- 3.08 The Contractor shall provide digital color images (jpg format) for all major activities in their proper sequence.
- 3.09 Any additional repairs, parts or services that are required, but not included under agreement, will be brought to the attention of the City of St. Charles.

### **4.0 ENVIRONMENTAL AND SAFETY REQUIREMENTS**

- 4.01 The Contractor shall work in a safe and professional manner and keep their worksite clean and safe at all times.

- 4.02 Workers are required to wear appropriate PPE as described and recommended through The National Fire Protection Association (NFPA) 70E Standard for Electrical Safety Requirements for Employee Workplaces.
- 4.03 The Contractor shall provide all required safety equipment for work to include but not limited to hard hat, category-2 Arc-rated clothing, upper and lower body outer layers, steel toed shoes and safety glasses.

## **5.0 WORK SCHEDULE**

- 5.01 Work hours are scheduled from 7:00 a.m. to 3:00 p.m. five days a week from Monday through Friday.
- 5.02 All work is expected to be performed between February 2 and March 31, 2015.

## **6.0 CITY RESPONSIBILITIES**

- 6.01 A City representative will occupy the sites throughout the duration of the project.
- 6.02 The City shall be responsible for switching, lock out, and grounding of any equipment necessary to establish a safe work area.
- 6.03 The City shall provide suitable, free and clear access to the equipment.
- 6.04 The City shall disconnect and reconnect all external protection, control and relay wiring as required.
- 6.05 The City shall be responsible for the disposal of solid waste.
- 6.06 The City shall provide drum and dispose of all waste, flush and scrap oil generated in execution of work.
- 6.07 The City shall provide communication and sanitation facilities.

## **7.0 DEVIATIONS**

Any deviation from this specification must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with this specification, and the contractor will be held responsible therefore. Deviations must be explained in detail on an attached sheet(s). The contractor shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.